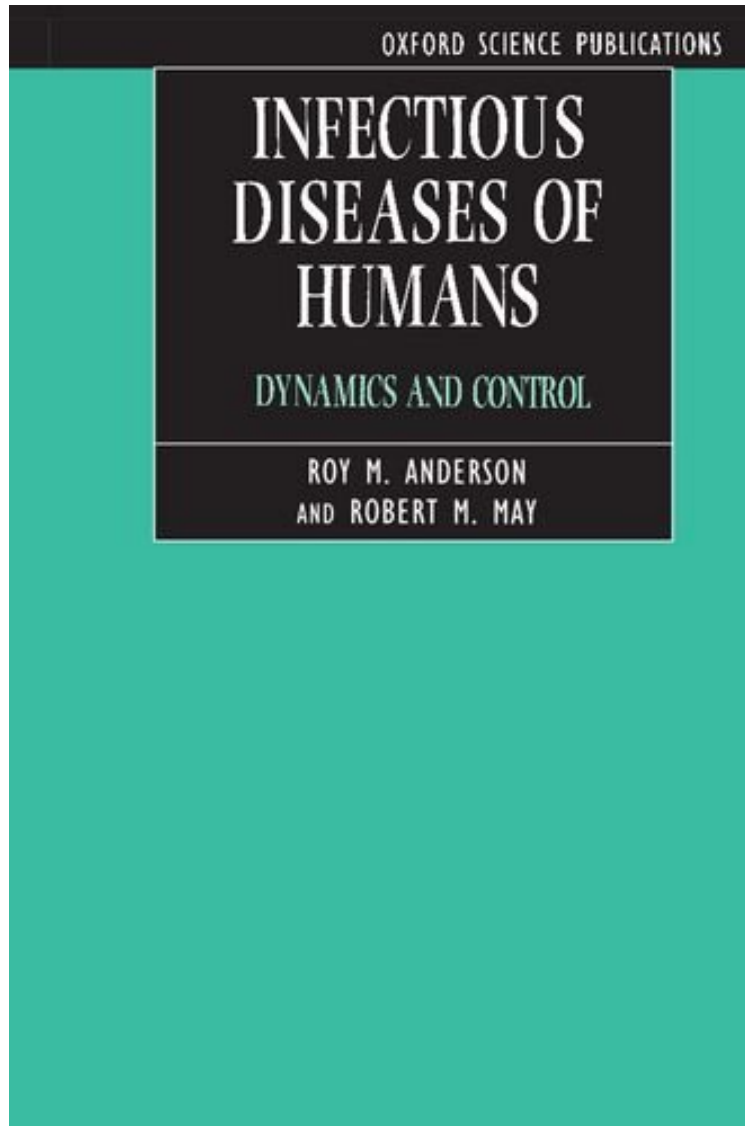


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Infectious Diseases of Humans: Dynamics and Control (Oxford Science Publications)

Roy M. Anderson, Robert M. May, B. Anderson
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Roy M. Anderson, Robert M. May, B. Anderson : Infectious Diseases of Humans: Dynamics and Control (Oxford Science Publications) before purchasing it in order to gage whether or not it would be worth my time, and all praised Infectious Diseases of Humans: Dynamics and Control (Oxford Science Publications):

6 of 6 people found the following review helpful. A classic. Epic yet readable. By xianI'm shocked that no one has previously reviewed this. In a sense, it is **the** classic text of disease ecology, binding together decades worth of

papers and theory into a single, coherent volume. May was trained as a physicist, and Anderson as a mathematician. They are a singular duo in ecology, publishing a series of very high impact papers that re-shaped the way many thought the interactions between hosts and parasites, drawing analogies with popular predator-prey systems. In addition, they drew attention to interactions between ecology and evolution. One of the things that I most like about their work in general, and this book in particular, is the clear narrative structure. There are abundant equations, but each is explained with clear English, and each one's importance in the overall "story" is plainly laid out. I found it to be *almost* (though not quite) armchair pleasure reading. Much of the math isn't exceptionally difficult, and can be skipped, but those looking for detail will find plenty. It's beginning to get a little old in what is missing, but this work remains a firm foundation for disease ecology, which in itself remains a cornerstone of modern population and community ecology research.

This book deals with infectious diseases -- viral, bacterial, protozoan and helminth -- in terms of the dynamics of their interaction with host populations. The book combines mathematical models with extensive use of epidemiological and other data. This analytic framework is highly useful for the evaluation of public health strategies aimed at controlling or eradicating particular infections. Such a framework is increasingly important in light of the widespread concern for primary health care programs aimed at such diseases as measles, malaria, river blindness, sleeping sickness, and schistosomiasis, and the advent of AIDS/HIV and other emerging viruses. Throughout the book, the mathematics is used as a tool for thinking clearly about fundamental and applied problems having to do with infectious diseases. The book is divided into two parts, one dealing with microparasites (viruses, bacteria and protozoans) and the other with macroparasites (helminths and parasitic arthropods). Each part begins with simple models, developed in a biologically intuitive way, and then goes on to develop more complicated and realistic models as tools for public health planning. The book synthesizes previous work in this rapidly growing field (much of which is scattered between the ecological and the medical literature) with a good deal of new material.

'Senior citizens of the medical profession who are faced with decisions about the direction of future efforts to control disease would do well to read this book, and teachers of courses on public health should find its perspectives invaluable.' *The Lancet* 'The authors repeatedly stress the importance of keeping the theory in close touch with the facts, and they have pulled together an impressive amount of data that illustrate the value of their mathematical models.' *Science* 'Aimed at epidemiologists, public health workers, parasitologists, and ecologists and filling a gap between mathematical texts on infectious disease dynamics and texts on epidemiological statistics, [this book] provides the tools for planning and monitoring control programmes ... a major contribution.' *British Medical Journal* '... it outlines a comprehensive framework for understanding the population biology of the infectious diseases that cause massive amounts of human suffering and untold economic loss. It is a very important book, lucidly written and exceptionally well organized.' *The Higher* 'they [do] offer it for review and synthesis and to stimulate interest rather than as a manual for the uninitiated ... In this respect they have succeeded and their work is a major contribution.' Karl G. Nicholson, Senior Lecturer in Infectious Diseases, Leicester, *British Medical Journal*, Volume 303, 1991 'a convincing, authoritative and important book, and with perseverance has a lot to offer for anyone interested in the epidemiology of infectious diseases' David Isaacs, *Immunology and Infectious Diseases*, Vol 2, 1992 'The Anderson-May book is a useful compilation of their results and ideas about epidemiological modeling. The authors have effectively blended modelling with data in their analyses of microparasitic and macroparasitic diseases. Their studies of idealized models yield results and concepts which are potentially very useful to epidemiologists and public health decision makers.' Herbert W. Hethcote, University of Iowa, *Bulletin of Mathematical Biology*, Vol. 55, No. 2, 1993 'The book represents a valiant and monumental effort to bring it all together, and certainly covers a broad range ... the book is replete with graphic and fascinating examples in the epidemiology of infectious diseases, many of which would be suitable for use in teaching ... will prove to be a landmark publication in its field. Its reasonable price will encourage a wide readership.' P. Prociv, The University of Queensland, *International Journal for Parasitology*, Vol. 23, No. 6 'excellent modern classic' Robin A. Weiss, *Nature*, Vol. 373, 1994 About the Author Roy M. Anderson is at Imperial College, London. Robert M. May is at University of Oxford and Imperial College, London.